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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,866	06/12/2001	Mark Shuster	1-21153	3490

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EXAMINER	
BARTH, VINCENT P	
ART UNIT	**PAPER NUMBER**
2877	

DATE MAILED: 03/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/879,866	SHUSTER ET AL.	
	Examiner	Art Unit	
	Vincent P. Barth	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☑ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Referring to Claims 1-4, 9, 11-14, 17 and 19, the terms "relatively small" and "relatively large" have been used, but without any standard for determining such relative sizes. See MPEP §2173.05(b), citing Ex parte Oetiker, 23 USPQ2d 1641 (Bd. Pat. App. & Inter. 1992) (the specification lacked some standard for measuring the degree intended). However, the claims have been discussed below as each may best be understood, since it is clear that the small areas of the surface are to be joined into a single larger image.

4. Referring to Claims 5-8, 10, 15, 16, 18 and 20, the fourth paragraph of 35 U.S.C. §112 provides that, "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers". Accordingly, said claims inherit the §112 second paragraph rejection of at least Claims 1 and 11, and are therefore rejected as well. However, the claims have also been discussed below, as each may best be understood.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1-5, 9 and 10 are rejected under 35 U.S.C. §102(e) as being anticipated by Pike, et al., U.S. Patent No. 5,936,725 (10 Aug., 1999).

7. Referring to Claim 1, Pike discloses a system for inspecting defects in the outer surface of at least a cylindrical surface area (such as a wire cable), by generating at least three images (i.e. relatively small areas) of the 360 degree surface area (col. 4, ln. 43), from which the multiple images are formed into a composite image (i.e. a relatively large area, or in this case the entire 360 degree surface) which may then be analyzed for surface flaws (col. 5, lns. 51-55).

8. Referring to Claim 2, Pike discloses that imagery (i.e. qualitative information) may be obtained at any single location of interest on the surface (col. 6, ln. 14).

9. Referring to Claims 3 and 4, Pike discloses that image signals from a camera may be processed with appropriate software (col. 5, lns. 51-52), thus providing a mathematical representation of the images of the surface, as well as quantitative information.

10. Referring to Claim 5, Pike discloses that at least two-dimensional images of the surface are generated for analysis (col. 3, ln. 34).

11. Referring to Claim 9, Pike discloses a system for inspecting defects in the outer surface of at least a cylindrical surface area (such as a wire cable), by generating at least three images (i.e. relatively small areas) of the 360 degree surface area (col. 4, ln. 43).

12. Referring to Claim 10, Pike discloses that image signals from a camera may be processed with appropriate software (col. 5, lns. 51-52), which inherently has a series of algorithms to form the composite image from the various image segments. See MPEP §2112.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pike, et al., U.S. Patent No. 5,936,725 (10 Aug., 1999), in view of Freifeld, U.S. Pat. No. 6,160,910 (12 Dec., 2000).

15. Referring to Claim 6, Pike contains all of the features claimed, explicitly discloses generating two-dimensional images of the surface for analysis (col. 3, ln. 34), and in which the object inspected is three-dimensional (col. 1, ln. 8). However, Pike does not explicitly disclose forming 3D images of the surface itself. Nevertheless, Pike does explicitly disclose the use of a camera (col. 5, ln. 50), which is clearly described generically, and thus would imply the use of a camera generating 3D images if such where desired. Freifeld discloses a camera for inspection

of surfaces in which a 3D image of said surface would be desirable (col. 2, ln. 29). Pike and Freidfeld are analogous art, since they are from a similar problem solving area, in that each involves inspecting the surfaces for defects. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983). The motivation for combining the references would have been to gain the benefit of segmented image analysis and 3D surface analysis. Accordingly, it would have been obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such benefit.

16. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pike, et al., U.S. Patent No. 5,936,725 (10 Aug., 1999), in view of Sawyer, U.S. Pat. No. 2,601,703 (1 Jul., 1952).

17. Referring to Claims 7 and 8, Pike discloses all of the claimed features except that the surface defect inspection system is used directly on the surface containing defects. However, Sawyer discloses that it has been known to inspect defects from replicating the defects with negatives, often involving plastic films, etc. (col. 1, lns. 7). Moreover, Sawyer discloses that the system is usable for cylindrical objects such as machine shafts (col. 1, lns. 8-10), and that only portions of the object may be the subjects of the replica if desired (col. 1, lns. 23-25). Pike and Freidfeld are analogous art, since they are from a similar problem solving area, in that each involves inspecting the surfaces for defects, especially machine parts and cylindrical parts. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983). The motivation for combining the references would have been to gain the benefit of segmented image analysis and the ability to replicate a defect for further visual inspection (see

Sawyer, col. 1, lns. 23-25). Accordingly, it would have been obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such benefit.

18. Claims 11-15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pike, et al., U.S. Patent No. 5,936,725 (10 Aug., 1999), in view of Sones, et al., U.S. Patent No. 6,172,748 (9 Jan., 2001).

19. Referring to Claim 11, Pike discloses a system for inspecting defects in the outer surface of at least a cylindrical surface area (such as a wire cable), by generating at least three images (i.e. relatively small areas) of the 360 degree surface area (col. 4, ln. 43), from which the multiple images are formed into a composite image (i.e. a relatively large area, or in this case the entire 360 degree surface) which may then be analyzed for surface flaws (col. 5, lns. 51-55). Pike does not explicitly disclose that the method of inspecting a cylindrical surface may be applied to so called preferential leads (as the term is described in the instant Specification to mean, *inter alia*, helical threads). However, Sones discloses a machine vision system for container seal inspection in which the seal may be in the form of a threaded seal 54 (col. 3, ln. 57; col. 5, ln. 10; and Fig. 1). Pike and Sones are analogous art, since they are from a similar problem solving area, in that each involves inspecting the surfaces of at least cylindrical objects for defects. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983). In the case of Sones, such surface defects would affect the proper sealing of a container. The motivation for combining the references would have been to gain the benefit of segmented image analysis as applied to seals. Accordingly, it would have been

obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such benefit.

20. Referring to Claim 12, Pike discloses that imagery (i.e. qualitative information) may be obtained at any single location of interest on the surface (col. 6, ln. 14).

21. Referring to Claims 13 and 14, Pike discloses that image signals from a camera may be processed with appropriate software (col. 5, lns. 51-52), thus providing a mathematical representation of the images of the surface, as well as quantitative information.

22. Referring to Claim 15, Pike discloses that at least two-dimensional images of the surface are generated for analysis (col. 3, ln. 34).

23. Referring to Claim 19, Pike discloses a system for inspecting defects in the outer surface of at least a cylindrical surface area (such as a wire cable), by generating at least three images (i.e. relatively small areas) of the 360 degree surface area (col. 4, ln. 43).

24. Referring to Claim 20, Pike discloses that image signals from a camera may be processed with appropriate software (col. 5, lns. 51-52), which inherently has a series of algorithms to form the composite image from the various image segments. See MPEP §2112.

25. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pike, et al., U.S. Patent No. 5,936,725 (10 Aug., 1999), in view of Sones, et al., U.S. Patent No. 6,172,748 (9 Jan., 2001) and Freifeld, U.S. Pat. No. 6,160,910 (12 Dec., 2000).

26. Referring to Claim 16, Pike contains all of the features claimed, explicitly discloses generating two-dimensional images of the surface for analysis (col. 3, ln. 34), and in which the object inspected is three-dimensional (col. 1, ln. 8). However, Pike does not explicitly disclose

forming 3D images of the surface itself. Nevertheless, Pike does explicitly disclose the use of a camera (col. 5, ln. 50), which is clearly described generically, and thus would imply the use of a camera generating 3D images if such where desired. Freifeld discloses a camera for inspection of surfaces in which a 3D image of said surface would be desirable (col. 2, ln. 29). Pike and Freidfeld are analogous art, since they are from a similar problem solving area, in that each involves inspecting the surfaces for defects. The motivation for combining the references would have been to gain the benefit of segmented image analysis and 3D surface analysis. Accordingly, it would have been obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such benefit. Moreover, and as discussed above, Sones discloses a machine vision system for container seal inspection in which the seal may be in the form of a threaded seal 54 (col. 3, ln. 57; col. 5, ln. 10; and Fig. 1). Pike, Sones and Freifeld are analogous art, since they are from a similar problem solving area, in that each involves inspecting the surfaces.

27. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pike, et al., U.S. Patent No. 5,936,725 (10 Aug., 1999), in view of Sawyer, U.S. Pat. No. 2,601,703 (1 Jul., 1952).

28. Referring to Claims 17 and 18, Pike discloses all of the claimed features except that the surface defect inspection system is used directly on the surface containing defects. However, Sawyer discloses that it has been known to inspect defects from replicating the defects with negatives, often involving plastic films, etc. (col. 1, lns. 7). Moreover, Sawyer discloses that the system is usable for cylindrical objects such as machine shafts (col. 1, lns. 8-10), and that only

portions of the object may be the subjects of the replica if desired (col. 1, lns. 23-25). Pike and Freidfeld are analogous art, since they are from a similar problem solving area, in that each involves inspecting the surfaces for defects, especially machine parts and cylindrical parts. See Medtronic, Inc. v. Cardiac Pacemakers, 721 F.2d 1563, 1572-1573, 220 USPQ 97, 103-104 (Fed. Cir., 1983). The motivation for combining the references would have been to gain the benefit of segmented image analysis and the ability to replicate a defect for further visual inspection (see Sawyer, col. 1, lns. 23-25). Accordingly, it would have been obvious to those skilled in the art to combine the references, at the time of the invention, in order to obtain such benefit. Moreover, and as discussed above, Sones discloses a machine vision system for container seal inspection in which the seal may be in the form of a threaded seal 54 (col. 3, ln. 57; col. 5, ln. 10; and Fig. 1). Pike, Sones and Sawyer are analogous art, since they are from a similar problem solving area, in that each involves inspecting the surfaces.

CONCLUSION

29. Applicants' Claims 1-20 are rejected based on the reasons set forth above.

30. Any inquiries concerning this communication from the examiner should be directed to Vincent P. Barth, whose telephone number is 703-605-0750, and who may be ordinarily reached from 9:00 a.m. to 5:30 p.m., Monday through Friday.

31. If attempts to reach the examiner prove unsuccessful, the examiner's supervisor is Frank G. Font, who may be reached at 703-308-4881.

32. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Richard A. Rosenberger
Primary Examiner